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INDIANA SCHOOL JOURNAL.

The editors of the JOURNAL intend that its pages shall be filled with such educational matter as no *live* teacher of the State can well do without.

As an assurance of this we announce that the following have been engaged as contributers for the coming year:

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Besides these a large number of the best practical educators connected with the Colleges and Public Schools of our State, have promised to write for the JOURNAL and aid in extending its circulation.

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INDIANAPOLIS, INDIANA.

INDIANA SCHOOL JOURNAL.

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THE GEOLOGY OF INDIANA.

BY PROFESSOR RICHARD OWEN.

In presenting to the readers of the INDIANA SCHOOL JOURNAL a brief sketch of Indiana's geological outlines, it is thought best not to encumber the description with any theoretical suggestions, or even with a synopsis of the great leading facts of the science in general, but rather to confine the communication to practically useful items regarding the mineral resources of Indiana. These items may conveniently be divided into three sections or headings: 1. The General Geology of the State; 2. The Minerals; 3. Economic Geology; 4. Scenic Geology.

In accordance with this arrangement, let us proceed to examine—

I. THE GENERAL GEOLOGY OF INDIANA.

None either of the crystalline or of the volcanic rocks are found in place in our State; the only specimens of crystalline rocks, destitute of all organic remains, are found in the drift or transported materials, which have been transported from more northern regions, probably by glacial action, and deposited especially in the northern parts of the State—farthest north as large boulders, then as smaller boulders, south of the center chiefly as coarse gravel, and lastly as fine gravel. The rocks which are *in situ* belong to the Paleozoic or older fossiliferous life-period of the earth's history, while some of our Southern States contain newer formations. The

middle-eastern part of Indiana, embracing the counties of Wayne, Fayette, Union, Franklin, Dearborn, Ohio, Switzerland and part of Jefferson, Decatur and Rush, is *Lower Silurian*, sometimes called Blue Limestone, or, as designated in New York geology, Trenton Limestone and Hudson river group. It is the same as the formation around Cincinnati, in Ohio, Frankfort and Lexington, in Kentucky, and Nashville, Tennessee. The characteristic fossils, such as corals, brachiopod shells and trilobites, can be readily obtained at Madison, Lawrenceburg or Richmond. This is geologically the lowest formation, although geographically occupying the highest parts of the State. Those which follow are successively higher geologically and lower geographically.* The *Upper Silurian* (chiefly the Niagara limestone of New York geologists,) includes the counties of Allen, Adams, Huntington, Wabash, Miami, Grant, Blackford, Jay, Madison, Delaware, Randolph and Henry, besides parts of Howard, Hancock, Decatur, Rush, Jennings and Jefferson. Good specimens can be had at Delphi, on the Wabash, at Huntington, and at New Albany, when the Ohio river is low.

The *Devonian* is found in all or most of Cass, Carroll, Tipton, Hamilton, Shelby, Bartholomew, Scott, Clark and parts of Howard, Hancock, Jennings and Jackson counties.

The *Subcarboniferous sandstone* formation prevails in the counties of Tippecanoe, Clinton, Boone, Hendricks, Marion, Morgan, Johnson, Brown, Washington and Floyd, including parts of Harrison and Jackson. The *Subcarboniferous limestone* extends over Montgomery, Monroe, Lawrence, Orange, Crawford, and parts of Putnam, Harrison and Perry counties. Fine crinoids are obtained near Crawfordsville, fossil plants in Orange, and corals in Crawford county.

The *coal measures* exist in at least twenty of our southwestern counties, in the eastern part of a coal basin, frequently denominated "The Great Illinois Coal Field." The counties are Warren, Fountain, Parke, Vermillion, Clay, Vigo, Green, Sullivan, Daviess, Knox, Dubois, Pike,

* As we proceed in a south-west direction, following the dip of the rocks.

Gibson, Spencer, Warrick, Vanderburg and Posey, with parts of Martin, Perry and Owen.

II. MINERALS OF OUR STATE.

Coal, our most valuable mineral, can be found in the counties above named; but is taken out in largest quantities in Perry, Spencer, Warrick, Vanderburg, Pike, Sullivan, Daviess, Knox, Vigo, Green, Clay, Vermillion, Parke and Fountain, and in some of those localities is of a quality permitting it to be used, without coking, in furnaces for smelting iron.

Iron is most abundant along the outer margin of the coal field; considerable quantities of bog-iron ore also exist in our northern counties, covered by the drift.

Salt is obtained from various wells, one of the most prominent is that of Messrs. Thomas & Co., near Lodi, in Fountain county.

Less important minerals are obtained in smaller quantities, as satin-spar, at Wyandotte cave, also nitre and stalactites; heavy spar and celestine, near Bloomington; calcite, near Wabash; marble at points designated under the head of Economic Geology. Lead and zinc have been found, but as yet not in large quantities, and the copper and gold found are in the drift, consequently the supply is not extensive.

III. ECONOMIC GEOLOGY OF INDIANA.

Good building stone is obtained at a great many places, especially in the subcarboniferous limestone counties. Marble is quarried below Madison, somewhat also in Martin county and a few other points. Lithographic stone of fair quality is obtained in Harrison county. Hydraulic limestone is an important article of traffic near the Falls of Ohio, and fire clay and potter's-clay are converted at several places into good fire-brick and earthenware, especially in Perry, Parke and Fountain counties. Milwaukee bricks are made in St. Joseph county. Natural paints are extracted from beds in Martin county; grindstones and whetstones are chiefly quarried in Orange county, the latter selling under the name of Hindostan or French Lick whetstones.

IV. SCENIC GEOLOGY.

The disintegration of the various rocks above mentioned has given to Indiana an equally varied soil and frequently modified scenery. The drift of the northern counties has in some places produced prairie, with occasional "oak openings," usually with a fertile soil, rich in organic matter. Those counties, in which disintegrated sandstone is the predominating ingredient of the soil, are less productive, although adapted to some crops; the limestone regions are generally undulating and well adapted for small grain and grasses; aluminous shales usually give rise to a colder soil.

In the subcarboniferous or cavernous limestone many caves exist, of which the Wyandotte, in Crawford county, is the most remarkable, being in many respects fully equal to the Mammoth Cave, in Kentucky. The owner, Mr. Rothrock, has fitted up a hotel for the accommodation of travelers, and the locality can readily be reached from Leavenworth, on the Ohio river. The counties near Lake Michigan are well supplied with coniferous timber, as pine and larch; cypress is found in Knox county; oak, beech, poplar, Walnut and ash, besides other less abundant genera prevail in most of the southern counties, and if anything like ordinary foresight were exercised in the use of timber, Indiana might always be well supplied, especially as her coal field is so extensive as to save much firewood.

There are many places in Indiana where the scenery is quite picturesque. To mention a few of these localities, I will enumerate: 1. A splendid lake view of the harbor of Michigan from a sandy ridge near the lake shore. 2. An extensive range of sight from the hills of Warren and Tippecanoe counties south over Wea Prairie, or north toward the Grand Prairie. 3. A bird's eye view across the Wabash, into Illinois, from Merom Heights. 4. A very picturesque scene when looking from the railroad cut at Madison, also from Hanover, up the Ohio river. 5. Extensive calcareous tufa deposits on the romantic cliffs near Delphi, Carroll county. 6. Fantastic natural pillars and cornices on the Mississinewa river. 7. The Falls of

Eel river, a tributary of the west fork of White river. 8. Lost river, in Orange county. 9. Hamer's cave, and one recently purchased by G. Donaldson, Esq. From both caves large streams of water issue, which can be ascended in a canoe some distance into the caves. They are near Mitchell, Indiana, where the Louisville, New Albany and Chicago railroad crosses the Ohio and Mississippi railroad.

In closing this brief sketch of the geological features and mineral resources of our State, it seems proper to add a few remarks calling attention to the springs fitted up at various points for the benefit of invalids. In Martin county, are the Indian springs and Trinity springs; in Orange county the French Lick and West Baden springs; the water at all of these is similar to the Blue Lick water of Kentucky.

A visit to various enterprising manufacturing establishments in our State would well repay any one. The glass works at New Albany, owned by Messrs. I. B. Ford & Sons, produce annually about \$315,000 worth of window and bottle glass and they expect to add the manufacture of plate glass. At Greencastle the best of nails are made by bringing iron from Lake Superior and the Missouri Iron Mountain, to mix with the native ore. They consume daily forty tons of coal, and produce each working day one hundred and seventy-five kegs of nails. They expect, after a time, to consume one hundred tons of iron daily and about three hundred tons of coal. Indianapolis and Terre Haute also manufacture iron largely. Details might be given of the amount of coal produced annually in Perry, Spencer, Warrick, Vanderburg, Sullivan, Clay, etc.; but it may suffice for the present to say that, through statistics obtained from Hon. Hamilton Smith, Perry county alone is known to have produced two million bushels per annum, and could, if necessary, increase readily to double that quantity.

The above may serve to show that the mineral resources of Indiana are most extensive, although as yet only partially developed.

COURSE OF STUDY FOR HIGH SCHOOL.*

BY W. A. BELL.

A "course of study" is not a matter of little consequence. The real advancement, the actual mental growth of the pupil depends not a little upon the character of his studies and the order of their succession.

The great problems now to be solved by educators are: 1. How does the mind grow? What is the natural order of the development of the faculties? 2. What are the studies best adapted to this development, and how shall they be presented?

The second proposition involves, necessarily, a "course of study." The following course for High Schools has been arrived at with difficulty, and is not entirely satisfactory. It is, however, the result of some years' experience, much thought and close study, and the examination and comparison of the courses of many of the best High Schools in the country.

COURSE OF STUDY FOR HIGH SCHOOL.

FIRST YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Algebra. Latin, German, or Science of Common Things. Aids to Composition. Reading and Spelling.	Algebra. Latin, German, or Science of Common Things. English Grammar. Reading and Spelling.	Algebra. Latin, German, or Science of Common Things. English Grammar. Reading and Spelling.

SECOND YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Arithmetic. Latin, German, or Analy- sis of English Words. History. Reading and Spelling.	Arithmetic. Latin, German, or Analy- sis of English Words. History. Reading and Spelling.	Geometry. Latin, German, or Book- keeping. Natural History. Reading and Spelling.

*Read before the State Teachers' Association, December 30, 1868.

THIRD YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Geometry. Physiology. Latin, German, or Universal History. Natural Philosophy.	Trigonometry. Physiology. Latin, German, or Universal History. Natural Philosophy.	English Grammar. Latin, German, or Universal History. Botany. Physical Geography.

FOURTH YEAR.

FIRST TERM.	SECOND TERM.	THIRD TERM.
Physical Geography. Botany. Chemistry. Latin, French, or Constitution of U. S.	Astronomy. Latin, French, or Chemistry. Rhetoric.	Moral Philosophy. Latin, French or Geology. Chemistry. English Literature.

Weekly exercises in Composition, Declamation, etc., should be required throughout the entire course.

The above is a full course, and those who complete it should be entitled to a regular Diploma. Those pursuing a partial course, should receive a certificate stating what has been accomplished.

It would, perhaps, be well for this Association to define what a High School is, and then suggest the same to our law-makers. In examining the last State Superintendent's Report, I find that there is an entire want of uniformity in regard to this matter. Each town and township fixes its own standard; and these standards vary so much that this part of the report is almost worthless. For example: The city of Wabash enrolls 366 in the Primary Schools, (Primary includes all below the High School,) and has 192 in the High School; more than one-third in the High School; while Indianapolis for the same year enrolls over 3,000 in the Primary Schools, and has only 68 in the High School. Kokomo has 148 in the High School, with only 303 in the lower grades, while Terre Haute, with a total enrollment of nearly 4,000, has only 97 in the High School. Fort Wayne, enrolling nearly 6,000, has only 85 in its High School; while Lafayette, with an enrollment of only 3,634, has in its High School 320. Westville enrolls only 100 in the Primary Schools, but places in the High School grade 188—nearly twice as many as in the Primary. I find many instances in which those in the High School outnumber those in the Primary.

These examples are sufficient to show the necessity of a *standard*, for otherwise no fair comparison of our schools can be made.

The standard indicated by the above programme is not so high as I find in many school reports, but I deem it fully high enough, when a four-year course is required. And I would say here, that with this standard for admission, I should deem a course of less than four years too meager.

I have omitted Greek for the reason that the small number desiring to study it would not, usually, justify the necessary additional expenditure.

Up to the High School there can be but little choice in studies. Every one must become acquainted with the elements of education. All must know something of each of the Primary branches. But after the High School is reached, then it is proper that the tastes and capabilities of the pupil be consulted. This belief has induced me to give a wide range for the election of studies.

All minds are not run in the same moulds. Minds differ as much as bodies differ; and it is as absurd to require that each mind should take in and digest the same quantity and quality of mental pabulum, as it would be to require each person to eat just so much of certain kinds of food each day. *I do not like cheese, but because you do, shall I be compelled daily to swallow a portion of it nolens volens?*

It is said of Procrustes that he was accustomed to measure all his prisoners by an iron bedstead. When they were placed upon it, if they were too short he stretched them, if too long he chopped them off. The common custom of stretching, and twisting, and chopping off, and bending, and even breaking minds to make them fit some fixed, unchangeable, closely defined "course of study" is little less barbarous than was the custom of Procrustes.

Do you ask, Shall pupils then have unrestrained liberty to choose their own studies? I answer no, not at all. But I do assert that with the advice and consent of parent and teacher they should have far greater liberty than at present.

A few hundred years ago, when the principal part of the knowledge there was in the world, was wrapped up in the classics—when, what are now the dead languages and mathematics comprised about all there was to learn, it became an absolute necessity that these should constitute the chief part of a “course of study.” These elements necessarily extended through all grades of schools and colleges.

But those times and those necessities do not now exist. All literature and all sciences we can now study in our “mother tongue.” Since that time almost all of what is now included under the term *natural sciences* has been discovered and developed, so that, at present, the *most* of what there is to learn, and that which is of equal importance to say the least, is found outside of both these departments.

Does not this argue for a change in the old curriculum? Does not this *demand* that a *part* of the old, at least, should give place to the new? But has it? Only to a limited extent. In all our older institutions we find the same course in Latin, the same in mathematics, and in most of them the same in Greek, as in “days of yore.”

Not long since a young man called upon me to inquire what was the best Introductory Greek book. He said that he did not wish to study Greek, but supposed he must in order to graduate at college in the regular course with full honors. This young man knows more of the natural sciences already than is required in most of our colleges. He has studied Latin three years and reads it quite readily. He has mastered the 1st Part Algebra, Plane Geometry, Plane Trigonometry and Surveying, yet, forsooth, because he has not the Greek he can not enter even the Freshman class of many of our colleges. I advised him to go where he *could* enter, and not to go to a “second-rate” institution, either.

Do not understand me that I would abolish the study of the classics, for I would not. There is a drill, a discipline of mind, gained in the study of a foreign language, that does not come in any other way. But in saying this I do not admit what some claim—that it is superior to

anything and everything else as a mental gymnastic. It is good and has its place, but only covers a part of the ground.

Many claim that the study of mathematics gives the best mental discipline; and in these latter days there are those who argue strongly that the greatest mental growth comes in the study of the natural sciences. These are *all* right, and they are *all wrong*—right for some individuals, wrong for others—right for some faculties of the mind, wrong for others—right for some stages of development, wrong for others.

All minds do not grow alike. While the “symmetrical development” theory is very beautiful as a *theory*, it is not at all practical.

One person finds it an easy matter to learn Latin and History, but utterly fails to understand mathematics.—Another acquires the mathematics with great facility but has neither taste nor talent for the languages. Still a third detests both the languages and mathematics but delights in the natural sciences. Now what shall we do with these three persons? Shall we *compel* them all to pursue the same “course,” or allow each one as far as possible to follow his own inclination and tastes? To my mind there is but one answer to the question, and this is readily inferred from what I have said before.

Our distinguished men, almost without exception, have been “one-sided” men—men of peculiar genius in special directions, and have followed these natural tendencies. Suppose that Geo. Comb, who never succeeded in fully mastering the multiplication table, had been compelled to spend the strength and energy of his youth in the study of mathematics, could England ever have boasted of this bright star in the galaxy of her great men? I doubt it.

Suppose that Agassiz, who to-day cannot understand why minus multiplied by minus gives plus, had, on this principle of “symmetrical development” been required to give most of his time and strength to mathematical studies, does any one think that our country would have been the richer by another great mathematician? No

one believes it. But we should have been the *poorer* by the greatest naturalist the world has ever known.

Suppose that General Grant on the same principle should devote his time in learning how to make speeches, would any one vote it a profitable excercise either for himself or for the community.

I once knew a devotee to the science of Phrenology, who claimed that parents might make of their children just what they wished, by compelling them to wear hard moulds or caps fitted closely to their heads and arranged so that they would bear heavily upon and compress those cranial bumps that were supposed to be the organs of the mind that they wished to suppress, and give plenty of room for the growth of those that they wished to develop. He argued that in this way could be made poets, mathematicians, artists, liars, thieves, preachers, etc., etc., *ad libitum*.

To my mind this theory is the complement of the "iron jacket" theory above alluded to, and they should be classed together for plausibility and common sense.

You will notice that according to this course of study pupils are required to take four studies at a time—better fewer than more. The reading and spelling for the first two years are made a *study*. More time is given to *some* of the branches than is usual. I believe that further change might be made in this direction with advantage. There seems to be too much of a tendency with most persons to *scatter*—to give a little time to everything, and not much to anything. I am inclined to think that fewer branches more thoroughly studied would be an improvement.

If the pupil chooses, he can take the German in the above "course" instead of the Latin. The three years allotted to it will enable him to read it, write it and speak it with much facility. In this case it becomes practical. And the mental drill in its acquisition is but little if any inferior to that gained in the study of Latin. And a good knowledge of German is of much value to almost any body, in almost any business, in almost any community.

Under some circumstances the languages may be omitted altogether. This course I usually advise when pupils expect to remain in school but one or two years.

For one not mathematically inclined, it would be better to drop the mathematics at the end of the second year. And for one essentially wanting in this direction, it would be best to stop with the completion of arithmetic. I should have no hesitancy in graduating such a one with full honors if he was bright in other directions and mastered the elective studies.

I have avoided the use of the word *practical* as much as possible, because I do not like the sense in which it is usually used. Generally a *practical study* means one that can be used in making money. That is practical, but it would be practical in a much higher and better sense, if it at the same time strengthened the mind or furnished a source of permanent enjoyment. Chemistry may not make a person a whit richer so far as money is concerned, but a knowledge of its exact and mysterious laws, by which an invisible universe is governed, will be a source of pleasure to the end of life.

This I call *practical*. Botany and geology may not make one cent of money for me, but if they are to me a daily source of rational enjoyment—if they enable me in some degree to look through them up to nature's God, they are in the highest and truest sense *practical*.

Much is said about pursuing studies for the sake of mental discipline alone. Physiologists tell us that *that* is the best exercise which we delight in most—which is engaged in with some other object than that of the exercise itself.

One says:

“In whate'er you sweat
Indulge your taste * * * *
He chooses best whose labor entertains
His vacant fancy most: the toil you hate
Fatigues you soon, and scarce improves your limbs.”

I believe that the same is true in regard to mental exercise. The above lines would express my idea correctly if paraphrased as follows:

“In whate'er you toil
Indulge your taste,
He chooses best whose *study* entertains
His vacant fancy most : the *book* you hate
Fatigues you soon and scarce improves your brain.”

Any study rightly pursued will give mental drill, and no study is worth pursuing which is not valuable in and of itself, independent of its discipline. Facts are not the chiefest part of an education, but they are absolutely essential. I discard alike the “grindstone” and the “Gradgrind” theories. Either one pursued independent of the other must invariably and inevitably lead to bad results.

Arithmetic is reviewed after 1st Part Algebra is completed; Grammar is reviewed the last term of the Junior year; Local Geography is reviewed with Physical Geography, to which two terms are given. These reviews of the Common School branches I deem *essential*.

It may be inferred from what has been said, that I would recommend that studies be pursued with reference to some profession or vocation in life. I do not wish to be so understood. I believe the contrary, as far as a High School is concerned this element should be totally ignored. Our aim should be not to make lawyers, or doctors, or teachers, or farmers, or house-keepers, or mechanics, but above any and all these, to make *men*—to make *women*. The *man* is more than the doctor, the *woman* is more than the teacher. We should aim at the highest, deepest, broadest culture. We should adopt that course which will develop the strongest, noblest manhood, the truest, purest womanhood.

I would advise pupils, in most cases, not to choose their vocations in life till after they have finished their course of study, though that be a college course. For then can they better judge of their own abilities—then will they better know their own tastes—then, having climbed the Tree of Knowledge to this height will they have a broader, more comprehensive view of what is round about them, and be better able to judge which branch of this great Tree they would better go out upon.

When we better understand the great objects of life, then will we better understand the true object of education and the best means of reaching it. Then can we better understand "what knowledge is of most worth."

EXTRACT FROM W. H. VENABLE'S ADDRESS ON PRACTICAL EDUCATION.*

Beware of that institution of learning which makes extravagant promises to do everything in no time. It may turn out graduates as rapidly as a steam press turns out printed papers—but not graduates who are well educated, not young persons thoroughly equipped for life's campaign. You remember that spurious sacrifice which tricky Prometheus offered to Jupiter. It appeared to be a large and beautiful ox, but was, in fact, only an ox's hide stuffed out with twigs, and leaves, and straw. Jupiter was not deceived. Nor will men be long deceived by well-appearing human counterfeits stuffed out with husks of learning, and chaff of training, by pedagogical charlatans. Nature will not be hurried up. Geology teaches how deliberate she is. In millions of years the coral islands rise, precious minerals are ages accumulating in the rocks. Slowly, indeed, is senseless matter prepared for its final uses. Slow and sure is the rule of creation. Man's body develops and matures with the quiet lapse of time. Our bones are not all solidified until we are twenty-five years old. Comparative anatomy assigns a century as the natural period of human life. According to eminent French physiologists, seconded by the distinguished Michael Faraday, youth extends to the fiftieth year, because until the completion of this term the tissues continue to become firm, while virility extends from fifty to seventy-five, during which time the organism remains complete. Old age does not set in until almost four score active years are told. The growth and ripening of the mind, like that of the body, is gradual and protracted. This fact wise

*Delivered before the State Teachers' Association, at Richmond, December 30, 1868.

men always recognize in the conduct of human affairs. The Spartans, under Lycurgus, were not regarded as men until they were thirty, and were not relieved from public discipline until they were sixty. In modern England and other European countries it is customary to speak of persons of twenty or more as boys and girls. Young America laughs at that. And as to remaining in school after the voice begins to change, the idea is preposterous. What, squander away the prime of life in hum-drum exercise with slate and lexicon! No, no, that sort of thing is for children, but men of sixteen have to do with the stern realities of existence. Young America must be doing for himself. He grasps frantically at the fore-lock of Time, a capillary remnant much abused. He must have a lightning express education or none at all. So he is shot through a superficial course of study into that haven of his ambition, a clerkship in some bank or business house, or a situation in the office of some doctor or lawyer, whereupon he esteems himself not only a gentleman and a scholar, but a man of business, a lion in the social world, a politician, a critic, and a philosopher. He sits cross-legged behind the daily news. He has a theory of "finance," and talks ironically on the "woman question," he sports a cane of evenings, and goes to the opera in fancy kids; he bluffs his seniors in conversation, and indulges in a thousand like manly performances. Young America feminine is the counterpart of her precocious brother. She, too, is impatient of school restraints, and longs to exchange them for the stern realities. She gets through the seminary before you supposed her through the third reader. Her mental acquisitions culminate in the graduating essay—thrilling production—elegant flower of originality, that blossoms, alas, only to exhaust the parent stalk that flowers so no more. After commencement come the usual music lessons, party-goings, fashion-chasings, and interminable prattle with companions about the pettiest personal affairs. Small talk! Why, these educated young ladies talk infinitesimal. The amount of crude medicine in highest potency, homeopathic pills is incalculably greater than the amount of sub-

stance in their conversation. The sort of young people I describe are as ready to get in love as they are to get out of school; nor are they at all in favor of long engagements. Matrimony is their manifest destiny. It is not flattering to our national pride to reflect that upon their progeny the future welfare of our country may depend. Seriously, the eagerness of parents for immediate results in education, dementates and demoralizes our young folks. Is there no cure? Is there no preventive for the dreadful delirium for early participation in what are called the actual affairs of life? Actual affairs of life! Just as if our days of pupilage were not a part of life—as if the careful and systematic cultivation of our growing faculties were not an *actual affair*, an indispensable affair—the paramount desideratum of youth! Is there no authoritative power to condemn the popular clamor for education made easy and acquired quickly. Shall the dear children be sacrificed at the greedy shrine of a false economy, and a sordid utility? Shall we help them to deceive themselves into the belief that the stone offered them is bread? Beguiled sons and daughters of culpable parents—half developed physically, not half developed mentally, without established moral principles or power of self-government—without any of the strong armor of experience, or the sharp weapons of discipline, they rush headlong into the vast arena of the world and expect to win in every conflict. Are they prepared for any important station or duty of private or public life, either humble or high? Can they comprehend, avoid, or overcome the ordinary difficulties that oppose human effort? Can they sustain any enterprise of “great pith and moment,” settle any question of serious import—improve the condition of society, or even rationally enjoy the opportunities that life affords for self-culture and advancement? Are they such men and women as responsible parents should desire to send forth as a contribution to modern society? Are they such men and women as teachers are willing to regard as the best results of our educational system? And, finally, are they such men and women as ought to hold citizenship in the greatest of Republics, in the most enlightened of centuries?

SECOND MONTH IN SCHOOL.*

BY SARA J. TIMANUS, NORMAL SCHOOL, WINONA, MINNESOTA.

SCRIPTURE.

Hands as

GOOD.

Diligent,
Merciful,
Honest,
Just,
Careful,
Liberal,
Praising.

BAD.

Lazy,
Hurting,
Cruel,
Killing,
Cheating,
Careless,
Stingy,
Stealing.

Christ in the heart, graven on the hands. "I have graven Thee upon the palms of my hands."

Devil in the heart, graven on the hands. "Cleanse your hands ye sinners."

Pictures of good and bad hands were drawn upon the black-board by the teacher, with the names of the qualities of each written upon them; also Christ across the good hand, and Devil across the bad hand.

CHRIST'S HANDS.

His hands raised only to bless and cure, never to do harm.

His dear hands were sacrificed for us.

"Who shall ascend unto the hill of the Lord? He that hath clean hands and a pure heart."

READING.

These words have been learned—bat, lamb, rat, snail, claw, hen, nest, the, is, red, green, pig, pink, hive, fox, box, goat, rose, dove, wolf, shœ, hook, foot, moose, goose, duck, blue, zebra, lion, eagle, yellow, daisy; bats, lambs, rats, snails, claws, hens, nests, pigs, pinks, hives, goats, foxes, boxes, roses, doves, shoes, hooks, ducks, lions, eagles. Total, 52 words; last month, 35; making in all, 87 words.

The children read any combination the teacher makes of these words on the black-board, such sentences as:

*For "First Month in School," see January number.

The wolf sees the yellow dogs.

The shoe is red and green.

The rose is red, etc.

Particular attention has been paid to emphasis; for instance, in the sentence, *See the red box.*

T. What must *I* do?

P. *See* the red box.

T. See *which* box?

P. See the *red* box.

T. See the red *what*?

P. See the red *box*.

Willson's 1st and 2nd charts have been used this month. Most of the letters have been learned and much attention has been given to spelling.

NUMBER.

The power of numbers as ordinals, illustrated by a ladder drawn on the black-board, also with the use of objects.

Addition of numbers to 1, written upon the black-board and slates thus :

1 and 1 are 1 1

1 1 and 1 are 1 1 1

1 1 1 and 1 are 1 1 1 1

1 1 1 1 and 1 are 1 1 1 1 1

1 1 1 1 1 and 1 are 1 1 1 1 1 1

1 1 1 1 1 1 and 1 are 1 1 1 1 1 1 1

1 1 1 1 1 1 1 and 1 are 1 1 1 1 1 1 1 1

1 1 1 1 1 1 1 1 and 1 are 1 1 1 1 1 1 1 1 1

Also subtraction of 1, thus :

1 1 1 1 1 1 1 1 1 less 1 are 1 1 1 1 1 1 1 1 1

1 1 1 1 1 1 1 1 less 1 are 1 1 1 1 1 1 1 1

1 1 1 1 1 1 1 less 1 are 1 1 1 1 1 1 1

1 1 1 1 1 1 1 less 1 are 1 1 1 1 1 1

1 1 1 1 1 1 less 1 are 1 1 1 1 1

1 1 1 1 1 less 1 are 1 1 1

1 1 1 less 1 are 1 1

1 1 less 1 is 1

1 less 1 is 0

No figures yet given.

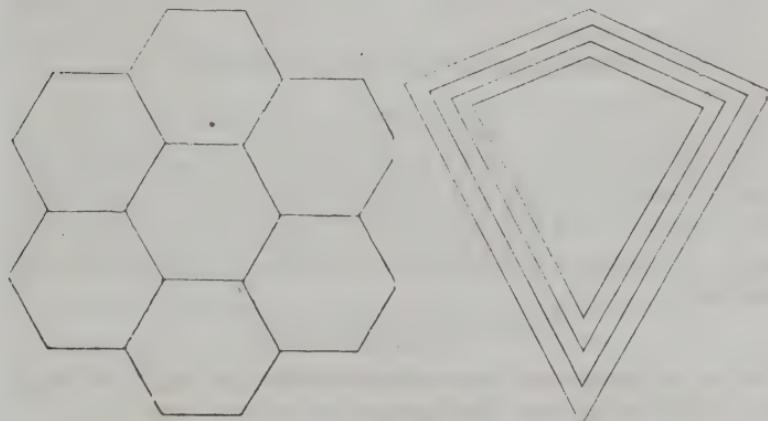
MUSIC.

The first three tones of the scale, key of D, have been given, and the exercises sung by note, calling the notes *one, two or three*, as the case may be, on singing some simple words adapted to the music. The use of the double bar explained and its notation given.

DRAWING.

To draw *curved lines* by representing *strings* placed in different positions.

To draw a square, an oblong, a rhomb, a trapezium, a pentagon, a hexagon and triangles. The drawings have been made from *real objects*, a set of wooden forms having been used. At the close of each lesson the figure has been drawn from memory, and pretty combinations made upon the slates, thus :



SIZE.

Ideas and terms—*Large* and *small*.

Ideas and terms—*Long, longer, longest*.

Ideas and terms—*Short, shorter, shortest*.

Ideas and terms—*Broad, broader, broadest*.

Ideas and terms—*Narrow, narrower, narrowest*.

Ideas and terms—*Thick, thicker, thickest*.

Ideas and terms—*Thin, thinner, thinnest*.

WRITING.

All the letters and many of the words learned in the reading lesson. Each child, with two or three exceptions, can write his own name.

HUMAN BODY.

Name principal parts as *head, neck, trunk and limbs.*

Parts of the *head*—Skull, face, ears and hair.

Parts of the *arm*—Shoulder, upper arm, elbow, forearm wrist and hand.

Parts of *leg*—Hips, thigh, knee, calf, shin, ankle and foot.

The leg and the arm compared with each other.

Parts of the *face*—Forehead eye-brows, eyes, nose, mouth, chin and cheeks.

PHYSICAL EXERCISES.

Light gymnastics with the arms and lower limbs.

SCHOOL-ROOM OBLIGATIONS.

SALEM, INDIANA, January 25th, 1869.

MR. EDITOR:—You have had what my experience and observation convince me to be the best plan of teaching little people the art of spelling and reading. In this article I propose offering a few practical thoughts on the teacher's

SCHOOL-ROOM OBLIGATIONS.

Solomon intended very much when he said: “Train up a child in the way he should go.”

As things now are, this training devolves chiefly upon the teacher. Hence, the vast importance of understanding thoroughly school-room obligations. Among these obligations are imparting instruction, teaching the pupil *how to think*, advising, admonishing, correcting, and punishing. To meet these demands requires an immense amount of careful thought, earnest study and close observation. In other words, to meet fully the claims of society upon him, the teacher must know that every word he utters, and every action he performs in the school-room, tends to accomplish the result intended. This capacity is attainable by every teacher who is determined to do

nothing in vain. The most troublesome and difficult school-room issue is punishment for the maintenance of proper discipline. The *great* object of punishment is to do good. Whenever there is a necessity for punishment, the teacher who administers it must have an object in view. The question for the teacher to settle clearly in his own mind, is, will the punishment accomplish the design? Without such deliberation, no punishment of any kind should be inflicted, and with it, no teacher can be rash in the administration of school-room discipline.

The foregoing is the standard by which all teachers should measure their ability to rule in their little empires. The earnest inquiry, "*Lord, what wilt thou have me to do?*" should be engraven on every teacher's heart, and should influence him in all his work. Then would he learn to know himself well; and knowing himself thus, he will understand how to deal truly with his pupils.

This remark opens the way to offer a practical thought on the employment of corporal punishment in schools. Its shameful abuse has led to the bitter, unreasonable controversy about its abandonment or continuance. The true position is that corporal punishment rightly administered, may save many a hardened, vicious pupil from ruin. But how can it be rightly administered? Only under the restriction already stated. There must be certainty that the object sought will be attained. This necessarily involves much deliberation. Again, this deliberation will prepare the operator to punish the recreant in the right spirit. Nothing rash will follow. Mark ye! Everything is to be done with deliberation. Everything ready for the thrashing to commence, how is the work to proceed? Give the offender one sharp stripe, and then allow ample time for that to *soak* in well. Repeat the dose and the soaking process also. Thus continue, allowing three stripes to every fifteen minutes. One round of three stripes dealt out under the *soaking in* system usually answers in the most obdurate cases. Eighteen months since the soaking in process was employed in the case of a bright, fourteen-year-old boy whom no moral suasion could reach. Three stripes ad-

ministered in eighteen minutes—ten minutes in *silent waiting* elapsing between the first and second stripes, and eight between the second and third, produced, in his case, effectual reformation. Two days after he received the punishment, he said to his teacher, speaking in a very pleasant manner, that he did not mind the whipping, but he could not stand the *soaking in*. He is now one of the most orderly and studious pupils in school.

The teacher who adopts the *silent-waiting-soaking-in* system, will find but little occasion for the employment of corporal punishment.

JAMES G. MAY.

HEAT.

BY R. T. BROWN.

It has long been understood that the specific heat of a body bears a direct relation to the chemical equivalent of that body; but I have not heard of any researches in the direction of determining the law by which heat is evolved in the union of substances, chemically. It is a fact, familiar to every observer, that in the burning of different substances, different degrees of heat result.—To determine whether this is governed by any fixed law, I have lately been conducting a series of experiments with the following results to-wit:

The highest heat known to result from combustion, is that produced by the union of oxygen and hydrogen as exhibited in the oxy-hydrogen blow-pipe.

Taking the combustion of a given weight of hydrogen, and the heat resulting from it as unity, I am able to construct the following table:

Combustion of a given weight of hydrogen,	1
Combustion of same weight of carbon,	1.6
Combustion of same weight of sulphur,	1.16
Combustion of same weight of zinc,	1.32

I have extended this table to the oxidation of about fifteen simple elements, and find the resulting heat *inversely as the combining number*.

I have not extended my researches far into the combination of other elements than oxygen, but as far as I have

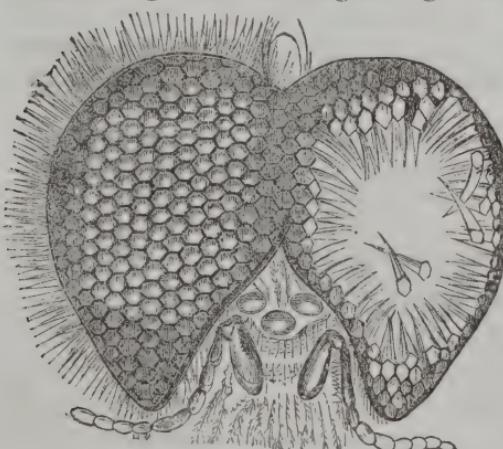
gone I find a conformity to this law: *The heat produced by chemical combination is inversely as the sum of the equivalents of the elements entering into combination.*

FOR PUPILS—MICROSCOPIC WONDERS. I.

BY GEORGE MEAD.

The microscope, as an educator, is invaluable, for it opens up a vast panorama of the most wonderful works of the Creator, thus furnishing the strongest of arguments against the atheist. The great Niagara, burning volcano, and the monsters of the sea and land are wonders in their way; but imagine how *delicate* must be the structure of the "*invisible* things of God," when more than a thousand perfectly formed and organized living animals are found in one *small drop* of stagnant water. There are four thousand and forty-one muscles in the insignificant caterpillar. Hooke discovered fourteen thousand mirrors in the *éye* of a drone, and to effect the respiration of a carp, thirteen thousand three hundred arteries, vessels, veins, bones, etc., are necessary. Leuwenhoeck discovered spiders no larger than a grain of sand, which spun threads so fine that it took four thousand of them to equal in magnitude a single hair. And thus we might go on until the mind wearies in the details of the minute wonders of nature.

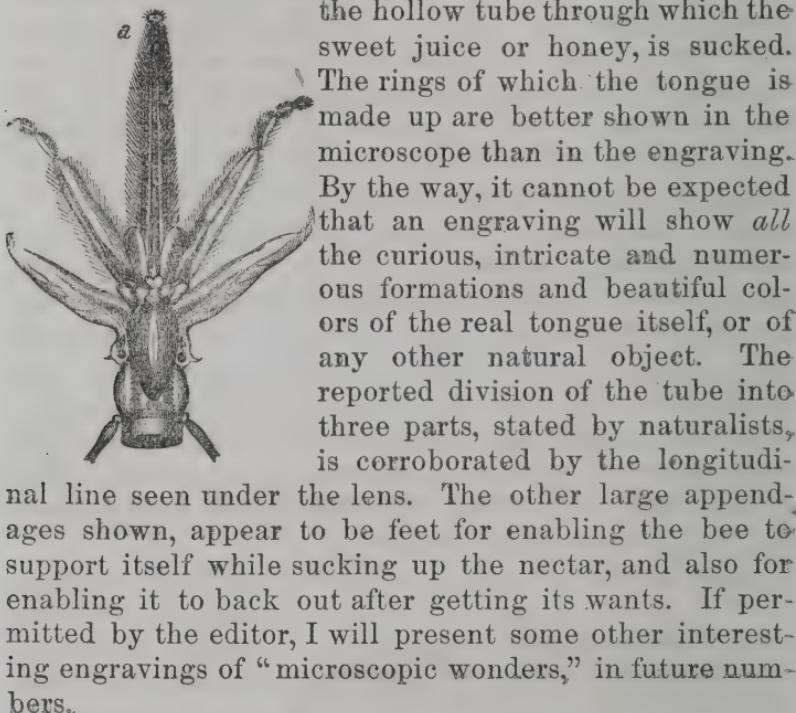
Here we present an engraving of an ant's eye as it appears in the microscope.



The *hundreds* of small eyes, or five-sided facets resembling a honey-comb, are seen on the left; also the hairy fringe which are the eyebrows. This explains why ants, bees, flies, and many other insects,

can see in all directions without moving their heads. Their eyes do not roll in their sockets like ours. Again, look just between these eyes, in front, near what looks like two chains with bags at one end, and see three egg-shaped figures. These represent three eyes in front of the ant's head, with which he looks ahead, as he tugs, and tugs, in his efforts to carry a worm or a fly of several times his own size, into his deep cellar where he keeps his winter's provisions.

Here is a bee's tongue, as seen in the microscope; *a* is the hollow tube through which the sweet juice or honey, is sucked.



The rings of which the tongue is made up are better shown in the microscope than in the engraving. By the way, it cannot be expected that an engraving will show *all* the curious, intricate and numerous formations and beautiful colors of the real tongue itself, or of any other natural object. The reported division of the tube into three parts, stated by naturalists, is corroborated by the longitudinal line seen under the lens.

The other large appendages shown, appear to be feet for enabling the bee to support itself while sucking up the nectar, and also for enabling it to back out after getting its wants. If permitted by the editor, I will present some other interesting engravings of "microscopic wonders," in future numbers.

OFFICIAL DEPARTMENT.

SUPERINTENDENT PUBLIC INSTRUCTION--*Dear Sir:* Please give me your opinion of the propriety and legality of the following rule, adopted by the School Board of this city* for the government of our schools:

SECTION 4. Any pupil who shall have been absent from school to the amount of three school days, in any one term, not certified to the teacher by the parent or guardian, either in person or by note, as necessary or inevitable, shall be required to obtain a written permit from the President of the Board before admission again to school; and three cases of tardiness shall be considered as one day's absence.

Under this rule my daughter has been dismissed from school because, as is alleged, she has been absent three days and has not furnished a certificate that her absence was "necessary or inevitable," as required by the rule. My daughter's absence was not occasioned by truancy, as I can readily show, and I claim that the rule is improper and illegal.

W. H.

REPLY.—The rule seems to me to have but two objects: 1st. To prevent truancy. 2d. To protect from the charge of truancy pupils innocently absent from school. Both objects are proper. No one doubts that truancy should, as far as possible, be prevented; and all agree that pupils innocently absent from school, should not be punished as truants.

The second object of the rule is intended for the benefit of your daughter. It is designed to present the best, simplest, and most direct proof that her absence was not by her own fault.

In the nature of things teachers can not know why pupils are absent or tardy. They can only note and record the fact. But they do not wish to punish the innocent with the guilty; they, therefore, request parents, when their children have been detained at home by parental authority, or other cause beyond the control of the children, to certify that fact to them, and thus furnish the best evidence that no truancy has been committed.

I am not prepared to say that the courts would sustain teachers in assuming that failures to procure such a certificate is conclusive proof of truancy. Possibly they would not; yet when parents are as deeply interested as teachers in the highest efficiency and success of the school, it would seem reasonable that they should be expected willingly to perform the very small labor required of them in giving

* The name of the city is purposely omitted.

the certificates of necessary absence, both to protect their own children, and promote the best-interest of the schools.

Had you furnished your daughter the necessary certificate, the authorities would have been as much bound by the rule to retain her in school, as in the absence of such certificate, they were bound to dismiss her. Even now, it seems to me that under the rule she may be restored, upon your making application to the school-board, and showing that her absence was not truancy.

B. C. HOBBS, Sup't Public Instruction,

EDITORIAL—MISCELLANY.

ANY subscriber failing to receive his *JOURNAL* by the 10th of the month, is hereby respectfully solicited to make the fact known to the publishers, when a copy will be immediately mailed. We are desirous that each subscriber should receive every copy due.

WE commend to the reader's special attention some of the articles in this number. Miss Timanus' article is detailed school-room experience, just what the primary teacher needs. Many teachers and some pupils will be interested in Professor May's "soaking in" process of whipping. Every teacher and every pupil over sixteen years of age should know something of the mineral resources of his own State. Professor Owen's article furnishes that information. With the map of Indiana before the class, several good lessons might be taken out of this article. All interested in chemistry will read Professor Brown's law. This law is as beautiful as simple. We shall be gratified, on account of both our friend and of science, if he shall prove a discoverer.

LEGISLATIVE.—Bills touching various educational interests are before the Legislature, as: Uniformity of Text Books; Repeal of Local Tax; German Language in Schools; Use of School Houses for Religious Meetings; Education of Colored Children; Appropriation for Normal School; Location of Agricultural College, etc. But at date of writing, everything is so immature that it is not deemed necessary to present any of these bills in detail. In next issue we shall be able to present results, and, perhaps, in some cases, bills in full. In the meantime, we shall hope for the best, yet not without fear.

THE GREEK AGAIN.—Last year we proposed that the college course be so modified as to admit students into the regular college classes

without any preparation in Greek. Subsequently the same was proposed by Mr. W. A. Bell, in a paper before the State Teachers' Association. And in the last number of the *Ohio Educational Monthly* it is announced that the Ohio Association of College Presidents and Professors, recently adopted a resolution admitting High School students to college classes without a knowledge of Greek. Thus we are moving, and in the right direction. This change ought to be made in all the colleges of our State, and that early. The reason is the same assigned in our former article, namely : Cost. We said in that article that, as a rule, it will cost the State as much to teach three students Greek in the Public Schools as to teach twenty geometry. Nearly the same ratio will hold between Latin and Greek. Were it our purpose to argue this question at length, it would be easy to sustain these positions with facts and figures; but such is not our purpose. In the language of the politicians we are aiming only to "keep it before the people," *i. e.* before the educators, believing that the proposed change will commend itself without elaborate argument. We shall, however, be glad to hear the pro's and con's from any interested.

We may, however, say two things before leaving the subject: 1. If the colleges shall demur, saying the student will not have time to do this extra work, we would propose, as an offset, an equivalent of extras in Latin and mathematics, thus giving him, in aggregate, the same as now. 2. We see no reason for discriminating, as the Ohio resolution does, in favor of High School students and against all others.

For the present we leave this, commending it to the consideration of the Collegiate Association Committee on "Course of Study."

REPORT OF PUBLIC INSTRUCTION.—The Sixteenth Report of the Superintendent of Public Instruction came to hand just as last number was going to press. This is a document of 209 pages, fifty-two being appropriated to general matter, the remainder to tabulated statistics. The following are among the themes discussed: Normal Schools, Bible in Schools, Education of Colored Children, Uniformity of Text Books, Township Libraries, and Amendments to the School Law.

Quite elaborate testimony from other States is presented, showing the educational status of the colored children. This testimony shows Indiana to stand almost alone in her neglect or refusal to make provision for this portion of her citizens. (We have faith that the present Legislature will relieve the State from this unenviable position.)

There are many other matters of interest to teachers and school officers in the report, but our space forbids further notice at present. We append a

CONDENSED TABLE OF STATISTICS FOR THE YEARS 1866, 1867 AND 1868.

	1866.	1867.	1868.	Increase and decrease since 1867.
Whole No. of children between 6 and 21 years of age	559,788	577,007	591,661	14,652 inc.
Number of Townships	982	985	988	3 inc.
Number of Incorporated Towns	95	110	108	2 dec.
Number of Cities	32	34	37	3 inc.
Number of School Districts in the State	8,399	8,421	8,594	173 inc.
Number of Dist's in which Schools were taught within the year	8,166	8,279	8,453	174 inc.
Pupils attending Primary Schools	390,714	405,631	425,745	20,114 inc.
Pupils atten'g High Schools	12,098	10,165	10,991	832 inc.
Average daily attendance in Primary Schools	247,181	259,224	275,745	16,521 inc.
Average daily attendance in High Schools	7,358	6,998	7,595	697 inc.
Average length of Schools in days	68	80	87	7 inc.
Average in months of 20 days each	3.4	4	4.35	.35 inc.
Number of Male Teachers employed	5,330	6,012	6,462	450 inc.
Number of Female Teachers employed	4,163	4,041	4,236	195 inc.
Number of Male Teachers licensed	4,079	4,436	4,588	152 inc.
Number of Female Teachers licensed	3,373	3,139	3,108	31 dec.
Average daily compensation of Male Teachers in Primary Schools	\$1 83	\$1 84	\$1 85	1 ct. inc.
Average monthly compensation of Male Teachers in Primary Schools	\$36 60	\$36 80	\$37 00	20 cts. inc.
Average daily compensation of Female Teachers in Primary Schools	\$1 31	\$1 45	\$1 42	3 cts. dec.
Average monthly compensation of Female Teachers in Primary Schools	\$26 20	\$29 00	\$28 40	60 cts. dec.
Average daily compensation of Male Teachers in High Schools	\$3 10	\$3 47	\$3 23	24 cts. dec.
Average monthly compensation of Male Teachers in High Schools	\$62 00	\$69 40	\$64 60	\$4 80 dec.
Average daily compensation of Female Teachers in High Schools	\$1 66	\$1 87	\$2 10	23 cts. inc.
Average monthly compensation of Female Teachers in High Schools	\$33 32	\$37 40	\$42 00	\$4 60 inc.
Average cost of Tuition per pupil, per month, in both grades	\$1 66	\$1 18	\$1 20	2 cts. inc.
Amount expended for Tuition	\$1,020,440 00	\$1,262,684 54	\$1,474,832 49	\$212,147.95 inc.
Number of School Houses built within the year	346	364	424	60 inc.
Total value of School Property	\$4,545,734 00	\$5,078,356	\$5,828,501 00	\$750,146 inc.

TABLE OF STATISTICS—Continued.

	1866.	1867.	1868.	Increase and decrease since 1867.
Number of Stone School Houses in the State.....	78	71	74	3 inc.
Number of Brick School Houses in the State.....	566	554	592	38 inc.
Number of Frame School Houses in the State.....	6,145	6,672	6,906	234 inc.
Number of Log School Houses in the State.....	1,096	1,063	831	232 dec.
Total number of School Houses.....	8,232	8,360	*8,403	43 inc.
Amount of Special School Revenue expended within the year.....	\$666,672 00	\$854,761 55	\$1,050,139 03	\$195,377 48 inc.
Number of Volumes in Township Library.....	265,388	281,820	282,892	1,072 inc.
Number of Volumes taken out of Township Library for use during the year...	84,957	126,653	140,279	13,626 inc.
Amount paid Trustees for managing educational matters.....	\$32,289 86	\$38,995 80	\$43,598 39	4,802 inc.

[Total School fund of the State, \$8,259,341 34.]

*Johnson County makes no report concerning school houses.

RECESSES.

PROFESSOR HOSS: I read in the last JOURNAL an interesting article by Professor Gow, upon the subject of abolishing the usual recess twice each day, and of substituting for them *rests* of five minutes each at the close of every recitation. I was much impressed with the cogency of his reasoning, and also with the force of his illustrations, all of which have constituted a part of my school experience; and I presume, too, of every other teacher.

Mr. Gow gave his plan in detail, at an Institute of which I was a member, last summer; and I was so much pleased with it, that I resolved to put it into operation in our schools. I did so, and have been practising it since the first of last September, with most gratifying success. There has not, in my own case, been the least friction. All of our pupils approve the measure; not one, so far as I have heard, has expressed a desire to return to the old plan. I manage the matter thus: The programmes in the whole building are so arranged that all the recitations close at the same time. One of the teachers is charged with the management of the signals; and two minutes before the time for rest has arrived, has two premonitory signals struck upon the bell. This is a warning to all the schools to close their recitations, record the standing of the pupils, and assign the next lesson. The classes are all dismissed to their seats, put away the books just used, and get ready those needed for the next study or recitation.

The second signal is now given; and the whole school enjoys its rest. Teachers are present, and vigilant to prevent all rudeness of conduct; and to induce that courteous deportment characterizing the genteel person.

One or two pupils at a time are permitted to leave the room, returning as soon as possible. When the five minutes have expired instant order prevails, and studies and recitations are resumed.

Such is the plan and its results, so far as tested. I most cheerfully recommend it to the consideration of teachers, feeling well assured that upon a fair experiment they will be pleased with it; and find, as I have done, that it promotes the order of the school as well as the morals and health of the pupils.

E. P. C.

[In order that those not recognizing the above initials may be guided to a proper estimate of the statements made, it seems appropriate to say that the author is one of the experienced and scholarly educators of the State.—ED.]

RUSH COUNTY INSTITUTE.

Pursuant to call of County Examiner, the Teachers of Rush county assembled on Monday, December 28, and organized the County Institute. The session lasted five days. The time was employed in recitations, as given below, and the evenings in discussions, lectures, etc.

English Grammar was conducted by Professor E. H. Butler, of Milton, Wayne county. Practical Arithmetic, by Mr. Lee, of Rush. Geography, by Miss Kate Steere, of Louisville, Indiana. Penmanship, by John Parson, of Rushville. Reading, by Mr. J. M. Hodson, of Carthage. Physiology, by Walter S. Smith, of Milroy.

These subjects were made interesting by the active co-operation of the members, and the week's exercise was highly profitable to the cause in this county. Total enrollment, 82; average attendance, 56.

D. E. Hunter, of Peru, was present, and delivered a good lecture. Dr. Hobbs, of Carthage, gave one on "The Standard of our Profession," which was well received. E. H. Butler read a paper on "The Religious Obligations of Teachers," which was pertinent and good.

We obtained seventeen subscribers for the JOURNAL, and a resolution was adopted recommending it. Yours, in the great cause, W. S. S.

[Thanks to the Teachers for so large a list of subscribers.—ED.]

PRINCETON.—Princeton, Gibson county, has adopted a plan for a three-story school house, to be built of brick, and to contain ten rooms. It is to have an assembly room 70x40 feet, a Superintendent's room, and suitable ward-robés for each school-room. It is to be ventilated in accordance with the Ruttan system. Estimated cost of building, \$30,000. Well done, Princeton! Somebody has energy and enterprise. We are pleased to know that a former pupil of ours is at the head of these schools, W. E. Ruble. It is said that town is about a fair index of the county in educational matters.

METEOROLOGICAL REPORT.

From Indiana State University, for the month of January, 1869.

Mean Temperature.....	.....	.....	36°.07
Maximum Temperature.....	(Thursday, 7th).....	.....	59°.5
Minimum Temperature.....	(Thursday, 14th).....	.....	26°.5
Warmest Day.....	(Friday, 8th).....	.....	49°.30
Coldest Day.....	(Monday, 25th).....	.....	28°.27
Barometer, Mean Height.....	.....	.....	29.204 in.
Barometer, Highest.....	(Tuesday, 19th).....	.....	29.524 in.
Barometer, Lowest.....	(Friday, 29th).....	.....	28.729 in.
Relative Humidity, (1.00 denotes complete saturation of the air). .....	.....	.....	.79
Amount of Rain and Melted Snow.....	.....	.....	2.51 in.
Depth of Snow.....	.....	.....	Inappreciable.
Number of Rainy Days.....	(Some rain or snow).....	.....	11.
Cloudiness.....	(10 denotes complete obscuration). .....	.....	5.64
Velocity of Wind per hour, (Robinson's Anemometer) .....	.....	.....	2.174 miles.
Prevailing Winds.....	.....	.....	South-west and South.
			D.

ORTHOGRAPHY.—If the articles of some educators (?) appeared in the paper as they are received by the editor, the spelling would certainly astonish the natives. There is nothing that mars good writing more than incorrect spelling, and we are sorry to believe there is nothing more poorly taught in our public schools than orthography.

Peru Republican.

POSEY COUNTY.—James B. Campbell has been appointed Examiner, vice M. W. Pearse, resigned. Mr. P. did a valuable work in aid of the new and commodious school house of Mt. Vernon. Mr. C.'s address is Mt. Vernon.

SHELBY COUNTY holds semi-monthly Institutes. This speaks for the energy of examiner and teachers.

MIAMI COUNTY.—Several townships in this county have adopted the system of Township Institutes. Superintendent Hunter takes an active and efficient part in these Institutes.

ELKHART.—The town of Elkhart has recently built one of the most excellent school houses of the State, and the trustees have sensibly taken steps for its preservation. Here is their rule touching this matter:

"Any pupil who shall, anywhere on or around the school premises, use or write any profane or unchaste language, or shall draw any obscene pictures or representations, or cut, mark, or otherwise intentionally deface any school furniture, or buildings, inside or out, or any property whatsoever belonging to the school estate, shall be suspended from the school until the Board shall determine the amount of damage, and give a written permission for the restoration of the pupil to the school."

STATE UNIVERSITY.—The Normal Department of the State University enrolled twenty-two members last term—(twelve the first term of its existence)—and this term, to date, (February 10th) thirty-five members.

EDUCATIONAL COLUMN.—Professor J. A. Waltz, Superintendent of Attica Schools, has opened an interesting educational column in the Attica Ledger. Who next?

APPROVAL.—A prominent educator says to the editor, your article on Schools and Temperance is just the thing. This approval is pleasing and encouraging.

THE INSTITUTE FOR THE BLIND enrolled 157 pupils last year, at a cost to the State of \$33,087. Superintendent's salary, \$1,400, and a home furnished in the Institution—equivalent to about \$2,200.

THE INSTITUTE FOR THE DEAF AND DUMB enrolled 209 pupils at an average cost per pupil per annum of \$240; aggregate about \$50,000.

THE Reform School has in it 108 inmates.

VINCENNES UNIVERSITY has no department higher than the academic. Would not the State make money by selling it to Vincennes for a high school, and directing the resources to some other purpose?

Farmland, Randolph Co., is building a new school house to cost from \$8000 to \$10,000. This will be a very commodious building for the size of the town. The people are manifesting the right spirit with reference to educational matters, and wish to secure the services of a first-class teacher to take charge of their schools about the first of April.

THE Agricultural College Fund of this State, amounts, in round numbers, to \$240,000. A handsome endowment. If loaned at 10 per cent.—\$24,000 per annum; at 7 per cent. \$16,800.

IN MEMORIAM—ANOTHER TEACHER FALLEN.—Alas, for the bright promises of earth! How soon the silver cord is loosed, and the golden bowl broken. Marshall L. Eusminger fell asleep December 23, 1868, aged 22 years.

A young life of beauty and promise is gone,
A brother who toiled in the wide field of thought,
Hath to the Great Master his golden sheaves brought
And heard the sweet plaudit, "good servant, well done!"

L. A. H.

ABROAD.

THE late Matthew Vassar gave an aggregate of \$83,000 to Vassar College, an institution for the higher education of women.

WISCONSIN has a normal school fund of \$625,294.11, and proposes six Normal Schools. One or two of these are now in operation.

SOUTHERN ILLINOIS.—(Egypt) is petitioning the Legislature for a Normal School. The Egyptians are seeking light.

Three prominent colleges of Maine enroll an aggregate of only 226 students. Are Maine students emigrating?

Alexander H. Stephens has been elected to the Presidency of Georgia University.

New York city pays \$3,000,000 for public schools, and \$2,900,000 for police force.

Pennsylvania, it is said, pays \$5,000,000 for education, and \$78,000,000 for rum,—*i. e.*, liquors. Indiana is about in the same ratio; \$2,000,000 against \$51,000,000. Did folly ever surpass this?

The State Teachers' Association of Tennessee has recently adopted the Ohio Educational Monthly as its organ. This is a good choice, and we congratulate friend White, and the Tennessee Association.

Six hundred students have entered the Kentucky University within the present year.

General Lee's College is to have a school of agriculture, one of commerce, one of applied chemistry, and another of mechanical engineering, in addition to the previously existing schools of civil and mining engineering.

In order to meet increased expenses, the price of tuition at Harvard College has been raised from \$105 to \$110 a year, commencing next September.

A Savannah paper says that Alexander H. Stephens has been offered \$25,000 for his first volume of the "War Among the States."

Rev. Charles Elliott, D. D. LL. D. (Methodist) ex-President of Iowa Wesleyan University, died at his residence, Mt. Pleasant, Iowa, January 6th. He was distinguished as a preacher, editor, educator and writer. He crowded his life full of work.

The endowment of Professorships in the various departments of Yale College, is as follows:

Natural Philosophy.....	.....	\$15,000 00
Modern Language.....	31,330 00
Divinity.....	43,443 00
Metaphysics.....	20,000 00
Law.....	65,000 09
Sanscrit.....	12,000 00
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Musical Instruction.....	10,000 00

—*Penn. School Journal.*

An English paper says: "In Germany an experiment is being made to discover whether pupils of certain age cannot be so crowded in their studies for half a day as to accomplish the same amount usu-

ally accomplished in a day, the remainder of the day being allowed for recreation."

This we submit is a question of mental dynamics involving the delicate problem of duration and intensity. These are always in the inverse ratio. To try to find their exact measure a limit is certainly commendable.

BOOK TABLE.

A handbook of NATURAL PHILOSOPHY. By *W. J. Rolfe and J. A. Gillet*, teachers in the High School, Cambridge, Massachusetts. Boston: *Woolworth, Ainsworth & Company*.

In this volume of the Cambridge Physics, there are really two volumes. The first contains the subjects usually treated under the head of Mechanics, Pressure, Motion, Machines, and sources of Mechanical power; the second, the elements of Sound, Light and Heat. The work is intended for the use of the pupils of our Academies and High Schools. The authors keep steadily in view the class of learners, for whom the work is especially intended, and hence constant reference is made to well-conducted experiments, and to phenomena constantly presenting themselves to the observant. It is not only the younger readers that may be benefitted by this book, but teachers and all who have any taste for the study of Natural Philosophy; those particularly who have paid attention to this subject some years ago, and have not time to read larger works, will find here interesting information presented in a very attractive style. There is another thing that renders the book valuable; this is, the bringing down the subject to the present state of science, and thus putting the youthful student at once on the right track, and preparing him, without having to unlearn anything, for rapid progress as he advances in years. In this book he gets a glimpse of that vast field of science which is now being opened up by the study of molecular action and force. The undulatory theory of light, and the atomic theory of chemistry, have prepared the way for a better understanding of the constitution of the matter, not only of the world on which, but of the universe of tremulous motion in which we live. The gross idea that electricity is a fluid, "something like beer for example," and that bodies soak up heat like a sponge does water, have forever gone from the domain of science. Correct views on these interesting points are presented in the treatise under consideration. Most persons have heard of that wonderful discovery, by which the Physicist feels almost, if not altogether, as sure that he has found iron and zinc, with other metal, in the sun as that they exist in the earth. This discovery is here presented concisely and intelligibly, to any one who has read intelligently what precedes the account of Spectral Analysis as given in this volume. The larger works of Tyndall on Heat and Sound, will be read and much better appreciated by the general reader who has read the same subjects in this little work of Messrs. Rolfe and Gillet. We had intended to refer more specifically to some other subjects, but we have not space enough for all we would like to mention, and we are at a loss which to select. In the mechanical execution of the book—its typography and illustrations—it is all that can be desired.

FIRST PRINCIPLES OF POPULAR EDUCATION AND OF PUBLIC INSTRUCTION.
By *S. S. Randall*, Superintendent of Public Schools of the City of New York. New York: *Harper and Brothers*. 12 mo. pp. 256.

This work does nothing with processes or methods, but confines itself to general principles and arguments. In some cases we think it is too general, passing into the province of the advocate, sometimes the eulogist, rather than that of the enunciator and expounder. In dealing with "first principles," it seems proper to announce and analyze, rather than to eulogize.

The author has allowed some of his statements to be marred by the luxuriance of his rhetoric. We occasionally find such expressions as "the baleful mists and deadly vapors of ignorance," and the "tempering of the undisciplined luxuriance of the imagination." If this work is intended for the popular reader, the style is perhaps not objectionable, but if for the disciplined educator, a little less luxuriance would be well.

Under the head of "errors and defects," the author makes several valuable suggestions. Among these are the following:

Too great a tendency to educate classes and not individuals, thus casting all in common mould. He further suggests that the union between the common school and higher institutions is yet imperfect; also that too much time is spent in the rudiments of learning, leaving too little time for broader culture. These are all excellent suggestions. He makes another even better than the above, but robs it of its practical force by its indefiniteness. He says that, "instead of that senseless * * routine of letters, syllables, words and phrases which so generally occupies the hours devoted to elementary instruction, the first years of school life should be exclusively occupied in * * unconscious tuition." This is excellent if it were not for that loose term "years." The exact educator wants something specific.

We are specially pleased with the prominence the author gives moral and religious culture both in the school and in the family. They are, as he claims, the crowning excellence of all attainments.

In conclusion, we can say this book has many good things in it, but we think Mr. Randall's experience and position justly warranted us in expecting a better book.

THE PHONIC READER FOR COMMON SCHOOLS PROPOSED ON THE OBJECTIVE PLAN. By *A. Knell and J. H. Jones*. Cincinnati: *Wilson, Hinkle & Company*. pp. 112.

This work adopts the phonic system, using the word method. This method employs analysis first and synthesis second; i. e. beginning with the word it analyzes down to the letter, and afterward synthesizes back to the word. Among metaphysicians this is debatable ground.

In the phonic elements, it deals with the *sound* of the letter rather than with the name. This is philosophic, and in our opinion beyond the limits of debate. As a means to the end, script instead of print is used; i. e. the pupil is taught to write the letter rather than to print it. This is opposed to the prevailing custom, and yet we believe it correct. At all events it is the shortest line to ultimate results. No one prints in after life, but all write. Hence writing is the "air line" route.

Underlying all this is the purpose, as expressed in the preface, to develop thought; i. e. to have the pupil apprehend the thought in each sentence. This is common sense, yet the rarest kind of sense in primary reading; it is the "golden rule" of reading.

This book innovates largely upon the usual methods. For this reason, if for nothing else, we warmly welcome it. It is well occasionally to test old

systems. If they stand, we have the more confidence in them; if they fail, we reject them (or at least ought to.)

We heartily commend this book to the critical examination of every teacher of primary reading; and when practicable, to school-room test, the true *experimentum crucis*.

PAYSON, DUNTON AND SCRIBNER'S PENMANSHIP.—From copies just received from the enterprising authors of this series, we see they are still improving their already excellent work. Among these improvements we notice in Nos. 1, 2 and 3, directions placed over the copy as guidance to the pupil. In another number is given the old "English letter," the "German text," and the "Grotesque." For further information see advertisement in this number of the JOURNAL.

The Little Spaniard, published by Lee & Shephard, Boston, is a handsomely bound and neat volume, and seems a pleasant story for the young.

The following have been received: Hall's Alphabet of Geology, Gould & Lincoln; Quackenbos' Primary History of the United States, Appleton & Company; Leigh's McGuffey's Pronouncing Primer; also his Primary Reader, Wilson & Hinkle.

PEDAGOGICS. Published by *Cridler & Co.*, York, Pa. A 12mo volume. Price 75 cents.

This is a humorous and instructive book written about teachers, in verse of the Hiawatha kind. The work is divided into several parts, each descriptive of an ideal pedagogue, whose name is suggestive of his characteristics. Aside from the amusement this book affords, we think teachers may derive many valuable hints from a perusal of its pages. C.

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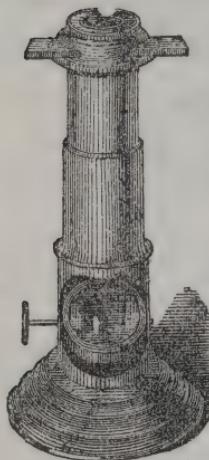
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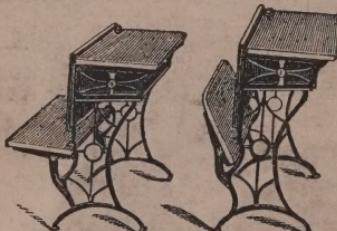
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